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ABSTRACT

A study replicated portions of the Greater Pittsburgh Literacy Council's pilot study that addressed the effectiveness of small group instruction. The study contrasted reading proficiency gain and personal goals accomplishment across two instructional modes: small group and traditional one-to-one instruction. Three group instruction sites were selected from among the council's 12 administrative "neighborhood" Allegheny County areas. Twenty students enrolled in the three classes; 9 continued until the project's close. A comparison group of 11 students receiving one-to-one instruction was drawn from the same administrative sites and two others serving suburban neighborhoods. The Adult Basic Learning Examination and the Slosson Oral Reading Test were administered to assess reading proficiency gain. Information about personal gains accomplishment was collected from the Annual Pennsylvania Department of Education Adult Literacy Program Student Data Forms and standard council intake interview and follow-up forms. Findings indicated that reading proficiency gain did not differ significantly across instructional modes. Students receiving one-to-one instruction reported achieving a greater proportion of their identified personal goals. Reading proficiency gain correlated negatively with years of formal schooling and positively with age of students. (YLB)

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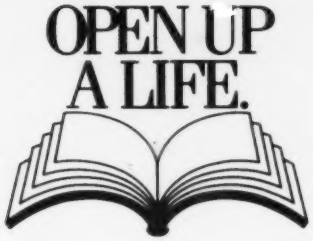

Greater Pittsburgh Literacy Council

Effectiveness of Group Instruction in Adult Literacy Acquisition

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Final Report

July 1993

CE 066 773

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Effectiveness of Group Instruction In Adult Literacy Acquisition

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BUREAU OF ADULT BASIC AND LITERACY EDUCATION

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Abstract

Title: Effectiveness of Group Instruction In Adult Literacy Acquisition

Project No.: Project Number 98-3034 Funding: $23,000

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Description: Little empirical evidence has been offered suggesting that collaborative learning settings are equal or superior to one-to-one tutoring in increasing adult learners' reading levels and helping students achieve other goals. In May 1991, Greater Pittsburgh Literacy Council issued a final report of a two-year pilot study that explored these relationships. The follow-up study reported here replicates and refines portions of the pilot's methodology and data analysis procedures.

Objectives: (1) To contrast students' reading level gain across instructional modes; (2) to contrast students' personal goals accomplishment across instructional modes; (3) to contrast the relationships among students' reading level gain, personal goals accomplishment, and instructional modes.

Target Audience: Program developers and staff members of adult basic and literacy programs who are considering implementation of small-group learning programs.

Method of Evaluation: The *Adult Basic Learning Examination* and the *Slosson Oral Reading Test* were administered to assess reading proficiency gain over time. Information about personal goals accomplishment was collected from Annual Pennsylvania Department Of Education Adult Literacy Program Student Data Forms and standard Council intake interview and follow-up forms. Attendance and program completion information was derived from a review of teachers' monthly records.

Findings: Reading proficiency gain did not differ significantly across instructional modes. One-to-one instruction students reported achieving a greater proportion of their identified personal goals. Reading proficiency gain was found to correlate negatively with years of formal schooling and positively with age of students.

Conclusions: Larger, long-term investigations are needed to definitively address the factors underlying relationships among reading proficiency gain, goals accomplishment, and instructional modes.

Descriptors:

Effectiveness of Group Instruction In Adult Literacy Acquisition

Introduction

Little empirical evidence has been offered in the professional literature of adult literacy suggesting that small-group, collaborative learning settings are equal or superior to one-to-one tutoring in increasing reading levels and helping students achieve other goals. Advocacy of group instruction, rather, has been grounded in certain political world views and assumptions about the proper motivations for large-scale literacy initiatives and the social dynamics of learning. While program descriptions abound, reports of their effectiveness are almost exclusively anecdotal or do not provide evidence that achievement or personal goals accomplishment are linked to instructional methodology. As pressure to "professionalize" adult literacy instruction increases, at a time of fiscal uncertainty for support of literacy initiatives at the state and federal levels, and as evidence of the magnitude of the illiteracy problem grows, it is incumbent upon adult literacy providers to offer clear rationale for expenditure of resources. The one-year study described here contributes to the professional literature an examination of the merits of group instruction in a milieu that has traditionally relied upon one-to-one approaches. In addition, it will assist program developers and staff members of adult basic and literacy programs in their decisions to implement small-group learning programs. Copies of this report may be obtained for a period of five years from date of issue by writing to the following addresses:

Pennsylvania Department of Education
Division of Adult Basic and Literacy Education
333 Market Street
Harrisburg, PA 17126-0333

AdvancE
PDE Resource Center
Pennsylvania Department of Education
333 Market Street
Harrisburg, PA 17126-0333

The authors wish to thank the Greater Pittsburgh Literacy Council tutors who shared their talents during the course of this project: Cathy Brennan, Kathleen Collins, Diane Hallehan, Janet Ludwig, Joseph Norden, Carol Smith, Danielle Saker, and Rachel Zilcosky.

The authors wish also to thank the Greater Pittsburgh Literacy Council staff members whose efforts contributed to the accomplishment of this study: Mary Castelli, Sue Evans, Suzanne Evans, Michelle Joyce, Diane Nossek, Joanne Ray, and Earlene Stephan.

Methods

In May, 1991, the Greater Pittsburgh Literacy Council issued a final report of a two-year pilot study that addressed the question of the effectiveness of small-group instruction and suggested areas for further study.[1] The current study replicates portions of the pilot's methodology and refines others in the service of informing principled inquiry in adult literacy service delivery. Its goals were to contrast reading proficiency gain and personal goals accomplishment across two instructional modes: small-group and traditional one-to-one instruction.

Instruction

Three group-instruction sites were selected from among the Council's twelve administrative "neighborhood" Allegheny County areas based on an assessment of area coordinators' new student waiting lists: East Liberty and North Side, which serve "inner-city" Pittsburgh catchment areas, and McKeesport, which serves the neighboring city of McKeesport, Pennsylvania. Classes were scheduled for ninety-minute periods twice weekly beginning in November 1992 and continuing through May 1993.

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[1] "A Student-Centered Approach to Adult Literacy in Allegheny County: Adoption of a Nationally-Recognized Model." Greater Pittsburgh Literacy Council, 1991.

Each class was staffed by a teacher and an aide. The teachers and aides in two classes were salaried and had previous teaching experience. The nonsalaried teacher and aide did not have teaching experience. All teachers and all but one aide had earned bachelor degrees.

Small-group instruction was informed largely by the philosophies implicit in the professional literature advocating such an approach. Learner-generated issues were incorporated into the curriculum, ample class time was allowed for discussion of these issues, and students were encouraged to read and write as often as possible. Teachers became facilitators who shared authority and who, during the individualized portions of each session, planned and provided instruction to meet each student's needs. Learners were consulted about their preferences for materials, methods, and learning objectives.

A comparison group of students receiving one-to-one instruction was drawn from the same administrative sites and two others serving suburban neighborhoods. Students entering the Council's one-to-one tutoring program are interviewed by a professional staff coordinator and are administered a standardized placement test. Area coordinators "match" students and tutors according to, among other factors, students' expressed preferences for tutor characteristics, and provide prescriptions for appropriate learning procedures and materials. A standardized post-test is administered and a follow-up personal goals achievement progress evaluation is conducted after students have received approximately fifty hours of instruction and then again at each successive fifty-hour mark. In addition, attendance reports and descriptions of instruction undertaken, both issued by tutors, are monitored monthly by area coordinators.

The small-group teachers and one-to-one tutors completed the Council's standard twelve-hour Basic Workshop, the recurrent theme of which is accomplishment of learner-designated goals with appropriate and various materials and methods. A whole language approach featuring integration of reading, writing, speaking, and listening is encouraged.

In addition, the group instructors completed a two-hour workshop, also developed by the Council, which focuses on methods which promote collaborative learning.

Student Samples

Recruitment of volunteer group-instruction participants was conducted by area coordinators on a case-by-case basis beginning in November 1992 and continued until February 1993. Twenty students enrolled in one of three classes during that period. Three students attended a total of 5.5 hours or fewer and were arguably never true participants. Nine students continued in their studies until the project's close, representing a retention rate of 52.94%. Eight students elected to withdraw from the project after attending an average of 16.7 hours (range = 10.5 - 28.5 hours) and are not considered in analyses of outcome measures below.

Analyses of basic demographic and placement data revealed no significant or "practical" differences between continuing and withdrawing students. (The *possible* exception to this was high school graduation. Forty-four percent of continuing students completed high school whereas 62% of those withdrawing were high school graduates. See Table 1.)

However, as Figure 1 illustrates, continuing and withdrawing students differed markedly in their attendance patterns.[2] While both groups' mean rates of attendance during the first month of enrollment did not differ significantly, (mean = 78.67% and 68.25% respectively, $t = -.70$, $p = .495$) rates during the second and third months did differ (Month 2 means = 74.56% and 48.75% respectively, $t = -2.44$, $p = .027$; Month 3 means = 65.89% and 38.83% respectively, $t = -2.90$, $p = .012$). By the fourth month, 62.5% of all students who eventually withdrew had done so. Overall (first-to-last-month) attendance rates also differed significantly. While continuing students attended 75.44% of scheduled class hours during the months they were enrolled, those who eventually withdrew attended 52.62% of scheduled class hours during the months they were enrolled ($t = -4.63$, $p = < .001$).

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[2] While classes in all group-instruction sites were scheduled for ninety minute periods twice weekly, some irregularities, due to inclement weather, holidays, and illness, did occur. In an attempt, then, to "normalize" the attendance metric, students' attendance is here considered as a percentage of the instructional hours actually scheduled in their particular sites during a given month. In addition, because enrollment was open-ended and class composition was therefore fluid, a particular student's actual first month of attendance might not have been the same as another's. "First," in other words, could refer to November, December, or January; "second" could refer to December, January, or February, and so forth, depending on when a student enrolled. Regardless of a student's actual enrollment date, however, "percentage of monthly scheduled class hours attended" is always computed as a ratio of hours attended to hours scheduled *during that particular student's* first through last months of attendance.

Table 1
Comparison of Demographic and Placement Characteristics

Groups: Continuing and Withdrawn Group-Instruction Students

	Group-Instruction Students: Status		
Demographic and Placement Characteristics	Withdrawn	Continuing	Statistical Comparison (If Appropriate)
Race	Black = 6 (75%) White = 2 (25%)	Black = 6 (66.7%) White = 3 (33.3%)	$X^2 = 1.00^a$
Sex	Female = 2 (25%) Male = 6 (75%)	Female = 1 (11%) Male = 8 (88.9%)	$X^2 = .57647^a$
Age at Administration of *ABLE* Pre-test (Years.% 12 Months)	Mean = 37.40 Range = 24.33- 55.99	Mean = 33.31 Range = 21.87 - 51.52	$t^b = .87$ $p^c = .398$
Highest School Grade Completed	Median = 12 Range = 9 - 12	Median = 11 Range = 7 - 12	
GED Completion	HS Graduates = 5 Non-Graduates = 3 GED Completion = 0	HS Graduates = 4 Non-Graduates = 5 GED Completion = 1	
ABLE Pre-Test Reading Comprehension Scaled Score	Mean = 614.00 Range = 556 - 659	Mean = 604.333 Range = 567 - 675	t = .54 p = .599
ABLE Pre-Test Reading Comprehension Grade Equivalent Score	Median = 4.250 Range = 2.4 - 6.9	Median = 3.200 Range = 2.7 - 8.4	
SORT Pre-Test Word Recognition Grade Equivalent Score	Median = 4.8 Range = 3.7 - 7.2	Median = 4.6 Range = 2.2 - HS[d]	

[a]Fisher's Two-Tail Exact Test. [b]t = T-Test statistic of difference between means. [c]p = Two-tailed significance level. [d]High School level.

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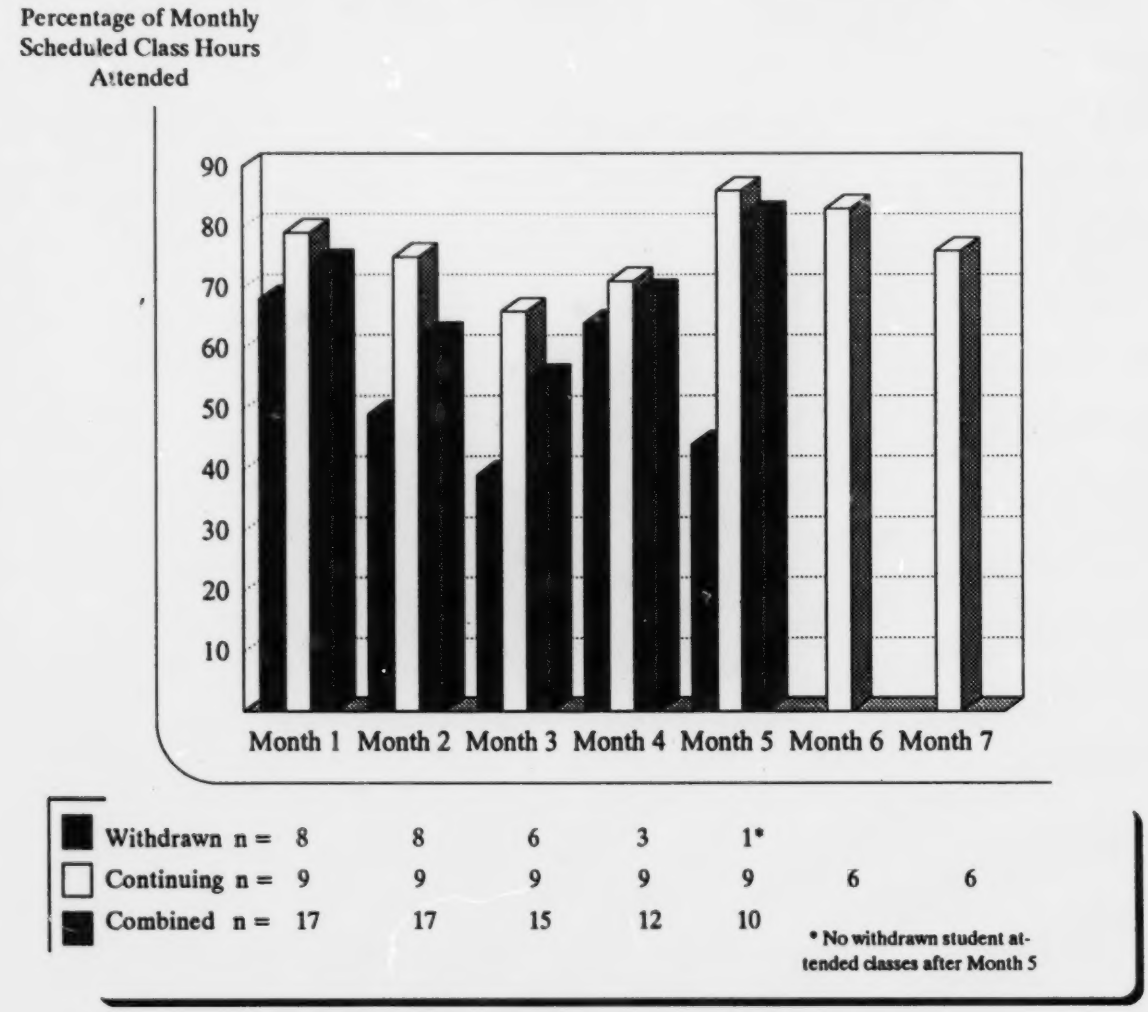
Figure 1
Average Monthly Percentage of Scheduled Class Hours Attended

Groups: Continuing and Withdrawn Group-Instruction Students



As group composition stabilized, it became possible to select a comparison group of one-to-one instruction students who had entered into relationships with tutors at approximately the same time that groups were forming in November 1992 and who were similar to group-instruction students in certain critical ways. Eleven such students were eventually selected. However, though attempts were made to match these individuals with their group-instruction counterparts on basic demographic and performance criteria, and while

analyses indicated no statistically significant[3] differences between them, as Table 2 indicates, it cannot be said that these groups are entirely representative of each other.

Racial composition of the one-to-one comparison group is *apparently* a mirror image of that of the group-instruction group. And while women and men are equally represented in the comparison group, most group-instruction students are men. Finally, comparison-group students are older and exhibit a lower median level of formal schooling completion.

Instruments and Procedures

The reading comprehension subscale of the *Adult Basic Learning Examination* (*ABLE:* Karlsen and Gardner, 1986) and the *Slosson Oral Reading Test* of word recognition (*SORT:* Slosson, 1963) were individually administered to group-instruction students at the outset of instruction and again at the project's close to measure proficiency gain over time. These administrations are referred to as "pretest" and post-test" below, respectively. The timing of pretest administration of these instruments for one-to-one instruction students corresponded to the dates of their initial agency screenings, and, in most cases, several days or weeks elapsed between these dates and the onset of their instruction. Post-test administrations for one-to-one instruction, however, also corresponded to the closing of the project, and reading comprehension post-testing for both groups followed a same-level, alternate-forms protocol. Average number of days elapsing between pre- and post-testing differed significantly across groups (group-instruction = 188.44 days, one-to-one instruction = 342.64 days, $t = -4.11$, $p = .001$). Average number of instructional hours attended between administrations, however, while *apparently* different, was not statistically significant across groups (group-instruction = 46.611 hours, one-to-one instruction = 63.41 hours, $t = -1.78$, $p = .097$).

The forty-item reading comprehension subscale of the *ABLE* is one of five tests contributing to a battery measuring the educational achievement of adults in reading,

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[3] It is worthy of note that statistical tests of significance "fail" in these cases, as they usually do if considered in and of themselves. First, sample sizes are rather small and compromise the power of the statistical tests represented throughout this report. Second, a sober, "eyeball" examination of the raw numbers and distributions underlying the tests in Table 2 reveals certain "practical" differences between groups that should not be ignored. Third, and finally, it is interesting that the apparently significant difference between the groups' *ABLE* pretest scores ($p = .056$) is mitigated by the fact that their corresponding grade equivalent scores are "close" enough to each other to warrant the conclusion that scaled score differences are, in this case, inconsequential.

Table 2
Comparison of Demographic and Placement Characteristics

Groups: Continuing Group-Instruction Students and One-To-One Instruction Students

	Instruction Types		
Demographic and Placement Characteristics	One-To-One	Group	Statistical Comparison (If Appropriate)
Race	Black = 3 (27.3%) White = 8 (72.7%)	Black = 6 (66.7%) White = 3 (33.3%)	$X^2 = .1748$[a]
Sex	Female = 6 (54.5%) Male = 5 (45.5%)	Female = 1 (11.1%) Male = 8 (88.9%)	$X^2 = .07028$[a]
Age at Administration of *ABLE* Pre-test (Years.% 12 Months)	Mean = 42.62 Range = 29.7 - 56.51	Mean = 33.31 Range = 21.87 - 51.52	t[b] = .87 p[c] = .398
Highest School Grade Completed	Median = 9 Range = 8 - 12	Median = 11 Range = 7 - 12	
GED Completion	HS Graduates = 4 Non-Graduates = 7 GED Completion = 2	HS Graduates = 4 Non-Graduates = 5 GED Completion = 1	
ABLE Pre-Test Reading Comprehension Scaled Score	Mean = 634.00 Range = 592 - 671	Mean = 604.333 Range = 567 - 675	t = -2.04 p = .056
ABLE Pre-Test Reading Comprehension Grade Equivalent Score	Median = 4.800 Range = 3.2 - 8.0	Median = 3.200 Range = 2.7 - 8.4	
SORT Pre-Test Word Recognition Grade Equivalent Score	Median = 3.8 Range = 2.6 - 8.2	Median = 4.6 Range = 2.2 - HS[d]	

[a]Fisher's Two-Tail Exact Test. [b]t = T-Test statistic of difference between means. [c]p = Two-tailed significance level. [d]High School level.

mathematics and language arts. Norming was conducted in 1984 among incarcerated adults and those enrolled in adult and vocational education programs in 41 states. The authors have reported internal consistency reliability coefficients of .90 for both test forms among their adult and vocational education group. *ABLE* scores were "equated" with

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Stanford Achievement Test scaled scores and grade equivalent units by relating scores achieved on both tests by selected groups of school children in grades four, six, eight and ten. The authors have reported a correlation coefficient of .59 between the *ABLE* reading comprehension and the corresponding *Stanford Achievement Test* subscales.

The *SORT* is comprised of ten twenty-item word lists, each list corresponding to a school level between primer and high school. Grade equivalent proficiency levels are assigned depending upon the number of correct responses in lists that fall between the "starting" list (to which an individual has responded with 100% accuracy) and the "stopping" list (to which an individual has responded with 100% inaccuracy). The author has reported a test-retest reliability coefficient of .99.

Information about personal goals accomplishment was collected from two sources: Annual Pennsylvania Department Of Education Adult Literacy Program Student Data Forms and standard Council intake interview and follow-up forms.

Results

Reading Proficiency Gain

Figure 2 displays sets of frequency distributions for pre- and post-test *ABLE* reading comprehension subscale grade equivalent scores and summary information for corresponding achieved scaled scores. Both instructional groups exhibited reading comprehension gains (group-instruction median gain = 2 grade equivalents; one-to-one instruction median gain = 3.2 grade equivalents). In addition, the distributions of scores for both groups tended to flatten between test administrations, with falling numbers of students achieving in the lowest grade equivalent ranges and rising numbers achieving in the mid and upper ranges.

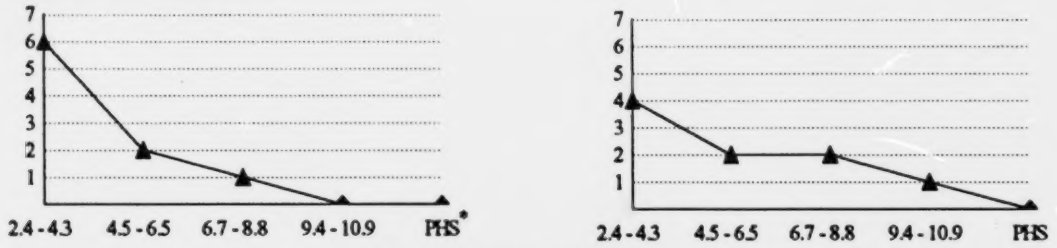
Analyses of scaled score change revealed that one-to-one instruction students exhibited a significant within-group gain (mean pretest score = 638.20, mean post-test score = 656.30, $t = -2.24$, $p = .052$). In other words, when one-to-one instruction students' pretest scores were contrasted with their post-test scores, the latter were significantly higher. Group-instruction students did not exhibit a similar gain. However, an analysis of across-group gain indicated that the groups' mean *magnitudes* of gain were not significantly

Figure 2
Comparison of *ABLE* Reading Comprehension Pre- and Post-Test Group Mean Scaled Scores and Their Corresponding Grade Equivalent Levels

Groups: Continuing Group-Instruction Students and One-to-One Instruction Students

	Mean (Average) Scaled Scores		*Within-Group* Analysis of Test Scores	*Across-Group* Analysis of Test Scores
	ABLE Pre-Test	*ABLE* Post-Test	Paired Samples T-Test	T-Test Statistic of Difference Between The Magnitude[a] of Post-Test Gains
Group Instruction Students	604.33 Range = 567 - 675 Median = 592	621.33 Range = 528 - 685 Median = 635	t = -1.71 p = .125 (n = 9)	Mean Magnitude of Gain = 17.00
1-To-1 Instruction Students	638.20 Range = 601 - 671 Median = 637	656.30 Range = 592 - 697 Median = 665	t = -2.24 p = .052* (n = 10)	Mean Magnitude of Gain = 18.10 t = -.09 p = .932
			*Statistically Significant Gain	[a]Post-Test Score minus Pre-Test Score

Number of students exhibiting grade equivalent scores within each score range on the horizontal axes below



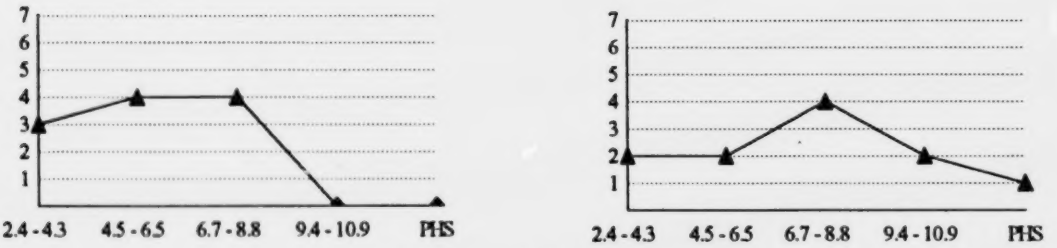
Grade Equivalent Score Ranges

*Post-High School

Group Instruction Pre-Test
Median Grade Equivalent Score = 3.2

Grade Equivalent Difference = 2

Group Instruction Post-Test
Median Grade Equivalent Score = 5.2



Grade Equivalent Score Ranges

1-To-1 Instruction Pre-Test
Median Grade Equivalent Score = 4.8

Grade Equivalent Difference = 3.2

1-To-1 Instruction Post-Test
Median Grade Equivalent Score = 8.0

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different from one another. In other words, while one-to-one students did exhibit reading proficiency gain and group-instruction students did not, the magnitude or rate of gain for one-to-one instruction students was not significantly greater than for their group-instruction counterparts.[4]

Figure 3 depicts *SORT* grade equivalent frequency distribution change for both instructional groups. A practical examination of these data must lead one to conclude that word recognition proficiency as measured by the *SORT* did not change appreciably for either group between test administrations.

Significant correlations were found to obtain between magnitude of *ABLE* scaled score gain and two demographic characteristics: (1) number of years of schooling completed and (2) age at the point of pretesting. Figures 4 and 5 depict these relationships, where each intersection of scaled score change and demographic characteristics are indicated with a blackened circle.

The correlation between reading comprehension gain and years of schooling was found to be negative ($r = -.4655$, $p = .0386$). In general, as number of years of schooling increased, the rate of reading gain decreased, and, thus, the intersections of these variables tend to cluster around a "regression" line through the center of the distribution that slopes away from high reading proficiency gain, and toward low gain, as years of schooling rise across the horizontal axis of the graph in Figure 4.

A different dynamic obtains in Figure 5, where the *positive* correlation between reading gain rate and age ($r = .43493$, $p = .0553$) is illustrated by intersection points clustering around a line that rises away from low reading gain rates, and toward high gain rates, as ages increase along the horizontal axis.

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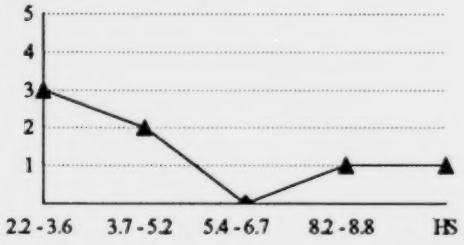
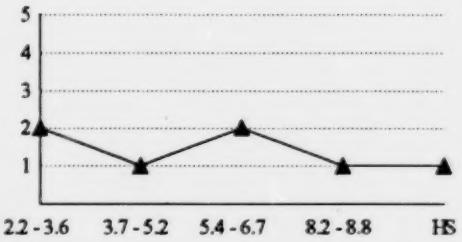
[4] One-to-one instruction scaled score analyses in Figure 2 represent the achievement of ten, not eleven, students because one student's "outlying" scores differed from one another by 128 points and were not included. A difference of this magnitude is an anomaly in a distribution of scores otherwise ranging between -39 and 60.

Figure 3
Comparison of *SORT* Pre- and Post-Test Group Median Grade Equivalent Levels

Groups: Continuing Group-Instruction Students and One-To-One Instruction Students

Number of students exhibiting grade equivalent scores within each score range on the horizontal axes below



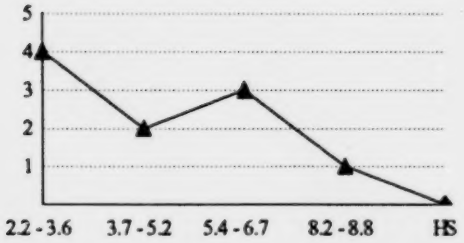


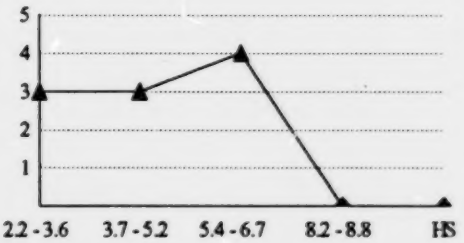
Grade Equivalent Score Ranges

Group Instruction Pre-Test
Median Grade Equivalent
Score = 4.6

Grade Equivalent
Difference = 0.8

Group Instruction Post-Test
Median Grade Equivalent
Score = 5.4





Grade Equivalent Score Ranges

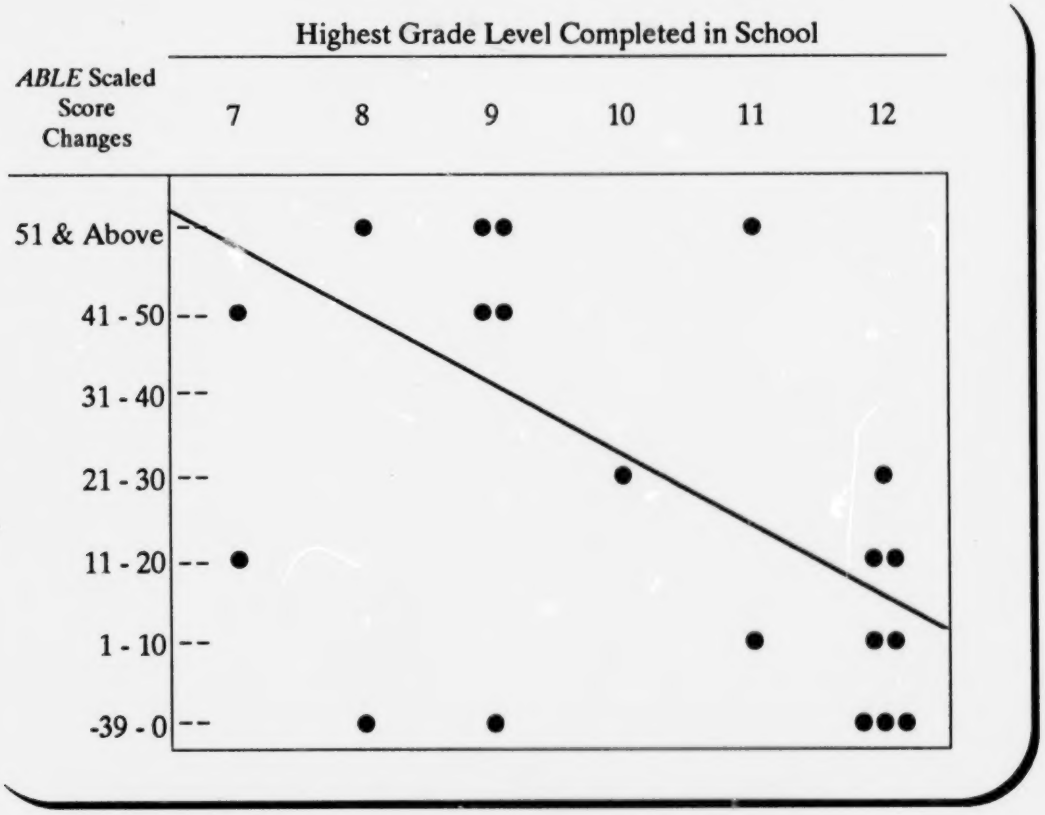
1-To-1 Instruction Pre-Test
Median Grade Equivalent
Score = 3.8

Grade Equivalent
Difference =0.65

1-To-1 Instruction Post-Test
Median Grade Equivalent
Score = 4.45

Figure 4
Correlation Between *ABLE* Scaled Score Change Over Time and Highest Grade Level Completed in School

Combined Groups: Continuing Group-Instruction Students and One-To-One Instruction Students

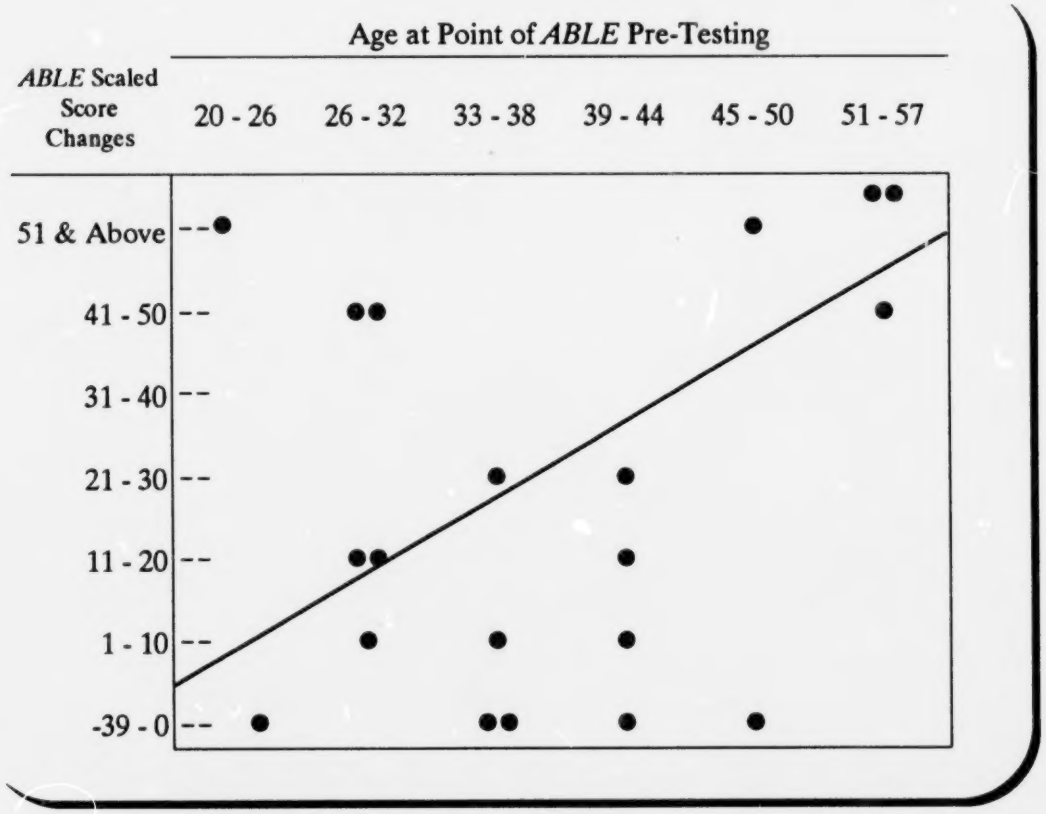


Mean *ABLE* Score Change Between Test Administrations	Mean Years of Education Completed in School	Correlational Statistics
23.1	10.15	$r^a = -.4655$
Range = -39 - 128	Range = 7 - 12	p = .0386*

[a] r = Pearson Correlation Coefficient: 1.00 = Perfect Positive Correlation
*Statistically Significant Moderately Strong Negative Correlation

Figure 5
Correlation Between *ABLE* Scaled Score Change Over Time and Age at Point of Pre-Testing

Combined Groups: Continuing Group-Instruction Students and One-To-One Instruction Students



Mean *ABLE* Score Change Between Test Administrations	Mean Age at Point of Pre-Testing	Correlational Statistics
23.1	38.01	r^a = .43493
Range = -39 - 128	Range = 21.87 - 56.51	p = .0553*

[a] r = Pearson Correlation Coefficient: 1.00 = Perfect Positive Correlation
*Statistically Significant Moderately Strong Positive Correlation

Personal Goals Accomplishment

Students' file documents were examined for evidence of the accomplishment of goals that had been named prior to instruction. (See "Instruments and Procedures" above.) Goals were grouped in eleven categories for analysis, thus:

- ☐ Improve job prospects
- ☐ Further education
- ☐ Start own business
- ☐ Pass driver's examination
- ☐ Enhance personal and/or recreational reading activities
- ☐ Derive sense of personal satisfaction or increase sense of self-worth
- ☐ Improve reading skills generally without more specific goal
- ☐ Manage personal finances
- ☐ Read "public" documents such as bus schedules, maps, phone books, and food and medicine labels
- ☐ Fill out job-related forms, including applications, and/or read job-related materials such as training manuals or classified advertisements
- ☐ Read more

As Table 3 illustrates, one-to-one instruction students (1) identified goals in more categories prior to instruction, (2) reported the accomplishment of goals in more categories identified prior to instruction, and (3) reported the accomplishment of a greater percentage of identified goals than did their group-instruction counterparts. (Students might have identified more than one goal within a category but were considered to have "accomplished" goals in that category if they reported accomplishing only one.)

Table 4 provides details of the raw frequency with which goals in each goal category (1) were identified by students prior to instruction, (2) were achieved after having been identified prior to instruction, and (3) were achieved *not having* first been identified prior to instruction. Most goals that were identified prior to instruction were not reported to have been accomplished. Those most often identified by both instructional groups were furthering education and enhancing personal and/or recreational reading. Group-instruction students also frequently identified passing a driver's examination, while one-to-one instruction students frequently identified improving job prospects, improving skills

Table 3
Comparison of Overall Personal Goals Accomplishment Outcomes

Groups: Continuing Group-Instruction Students and One-To-One Instruction Students

	Instructional Groups		T-Test Statistic of Difference Between Means and Percentages
Goals Categories	Group	One-To-One	
Mean number of categories in which goals were *named*	3.77 Range = 1 - 8	5.9 Range = 4 - 7	t = -2.43 p = .033*
Mean number of named categories in which goals *were actually accomplished*	.556 Range = 0 - 2	1.8 Range = 0 - 4	t = -2.44 p = .025*
Percentage of named categories in which goals were actually accomplished	11.4% Range = 0 - 40%	30.3% Range = 0 - 67%	t = -2.12 p = .048* *Statistically significant difference

generally, managing personal finances, reading public documents, and better handling job-related materials.

Information in the final columns in Table 4, which provide frequencies for the accomplishment of goals in categories that students did *not* identify prior to instruction, indicate that deriving a sense of personal satisfaction and reading more were frequently accomplished goals for one-to-one instruction students even though they had not been identified frequently as goals prior to instruction. For group-instruction students, similar "surprise" or "unplanned" accomplishments were improving skills generally and reading public documents better.

Neither rate of reading gain increase, nor level of formal schooling, nor age was found to correlate significantly with the rate at which groups reported achieving their expressed goals.

Table 4
Frequencies With Which Personal Goals Falling Within Each of Eleven Goals Categories Were Named Prior to Instruction, Were Achieved After Having Been Named, and Were Achieved Not Having Been Named Prior to Instruction

Groups: Continuing Group-Instruction Students and One-To-One Instruction Students

	Frequency with which goals within a category were named by students prior to instruction		Frequency with which goals within a category named prior to instruction were achieved during project		Frequency with which goals within a category were achieved but not named as goals prior to instruction	
	Instructional Groups					
Goals Categories	Group	1-To-1	Group	1-To-1	Group	1-To-1
Improve Job Prospects	4	10	0	1	0	0
Further Education	7	6	0	0	0	0
Start Own Business	1	0	0	0	0	0
Pass Driver's Exam	5	2	0	0	0	0
Enhance Personal/ Recreational Reading	6	10	2	4	0	1
Gain Personal Satisfaction/Self -Worth	1	1	0	0	3	7
Improve Skills Generally	3	8	1	4	5	2
Manage Personal Finances	2	8	0	3	1	0
Read Public Documents	2	10	0	5	4	0
Better Handle Job-Related Materials	3	10	2	3	1	0
Read More	0	0	0	0	2	5

Discussion

The attendance patterns exhibited by group-instruction students are remarkably similar to those of individuals comprising the group-instruction cohort in this study's 1991 pilot:

- ☐ The retention rate among the pilot's group-instruction students was 56%; 52.94% of this study's students were retained.
- ☐ In both studies, 62.5% of those students who eventually withdrew had done so by the fourth month of instruction.
- ☐ In neither study were the attendance rates of those who eventually withdrew significantly different from continuing students' rates during the first month of instruction; however, attendance rates for withdrawing students were significantly lower during the second month in both studies.
- ☐ Second month attendance rates for students who withdrew during the pilot declined by 41% when contrasted with first month rates; third month rates among this study's withdrawing students declined by 43% when contrasted with first month rates.

These results are but corroboration of a body of evidence that students' early attendance patterns in new programs are suggestive of future behavior and should trigger responses aimed at resolving conflicts that lead to withdrawal. As was pointed out in this study's pilot, small-group settings are well suited to exploit the strength of peer monitoring and influence over attendance habits, *if* that ethic and responsibility is established and nurtured by instructors.

While the within-group *ABLE* reading comprehension scaled score gain exhibited by one-to-one instruction students, a gain not observed among group-instruction students, constitutes partial evidence of differential performance, this study's evidence, when viewed as a whole, does not support the relative superiority of either instructional approach in raising reading proficiency levels. This was also the case in this study's pilot, and the time has come to mount a long-term, large-scale, perhaps cross-agency, examination of students' performance to confirm or deny results from these modest projects.

The intriguing negative correlation between rate of reading comprehension gain and years of formal schooling, on one hand, and the positive correlation between gain and age, on the other, might offer a tentative explanation for one-to-one instruction students' scaled score gain. First, recall that there was evidence that individuals comprising the one-to-one

instruction cohort were apparently older (mean age at pretesting = 42.62 years versus 33.31 years) and had completed fewer years of formal schooling (median years completed = 9 versus 11). Taken together with the facts that rate of gain fell as number of years of formal schooling increased (see Figure 4) and that rate of gain rose as age increased (see Figure 5), the older, "less-well-educated" profile of the one-to-one student provides a tentative explanation for the within-group gain. This explanation, however, begs the question why such a profile should be associated with these gains, and, if these results can be replicated in future work, attention should be paid to teasing out the interactions of gain, age, and education through the use of multivariate statistical analyses available for larger samples.

On the other hand, the within-group gain exhibited by one-to-one instruction students was mitigated by two factors. First, analysis of across-group *magnitude* of gain revealed that groups gained in proficiency at the same rate. Second, an examination of the grade equivalent levels corresponding to scaled score changes revealed that one-to-one instruction students and group-instruction students exhibited gains that were roughly the equivalent of each other. (See Figure 2.) Further, while *SORT* word recognition grade equivalent score distributions cannot be said to have undergone changes which are similar to each other (group-instruction students' post-test distribution is classically "normal" while that of one-to-one students is heavily skewed), median grade equivalent pre-to-post-test differences are equivalent: Neither group exhibited real word recognition skills growth. (See Figure 3.)

Analyses of goal accomplishment information revealed that, while neither group reported accomplishing most of the goals which they set for themselves, one-to-one instruction students reported accomplishing a significantly higher proportion than did their group-instruction counterparts. However, in fairness to all, three points must be acknowledged. First, six months of instruction is probably not sufficient time in which to observe progress toward, not to mention accomplishment of, certain of the long-range goals students frequently identified. (One student's remarks, recorded on a tutor's monthly report, are of interest in this context. He said, "My first goals were all wrong.") Second, as Table 4 indicates, 12 of 17 students, 7 of whom did not identify "improving skills generally" as a

goal, reported having accomplished that particular objective at project's end. And ten students, none of whom named it as a goal, reported having gained a sense of personal satisfaction or self-worth. The authors are confident that, had goals accomplishment procedures been sensitive to changing priorities, and had students been encouraged to specify short- as well as long-term goals, project outcomes would have reflected students' growing sophistication in targeting other objectives *based on their experiences as learners.*

That said, there remains to understand the apparently superior goals accomplishment behavior of one-to-one instruction students. One might suggest that the one-to-one learning environment is more conducive to both goals setting and to the *reporting* of goals accomplishment, for three reasons: first, because of the intense personal relationships that are established as an inherent part of one-to-one instruction; second, because pedagogical attention is more naturally directed toward group goals, as opposed to individual goals, in group settings; and third, because a group-instruction, whole language approach might obscure students' and teachers' *awareness* of goals accomplishment, resulting in inaccurate reporting of outcomes. Certainly, there is prima facie evidence to warrant such conclusions in the present case, but the authors would be remiss to not point out that this need not necessarily be so. Encouraging personal goals setting and monitoring progress toward their accomplishment can be the province of not only an interested classroom leader but of classmates as well, if instructors encourage this.